

Inside the LEGO Group's Secretive Strategic Product Unit Darwin

The LEGO Group's biggest early exploration into the digitization of the brick was started by a group of friends and their wild dream to create a computer animated LEGO® movie at a time before Pixar's amazing films like Toy Story dominated theaters.

Despite the lack of any high-end equipment, despite being years ahead of their time and initially getting a firm no from the LEGO Group, this band of friends persevered and were ultimately brought on to start a skunkworks LEGO Group R&D unit that would propel the company into its future of video games, movies, and an adept blending of the digital and physical.

It all started in the crisp Swiss air above Lake Thun near Bern, Switzerland, in the early 90s. An eclectic mix of dreamers that included a NASA scientist, a rock and roll roadie, and a photography student were brought together by the singular vision of a nature-loving wandering scholar who called himself Dent-De-Lion Du Midi. A sort of Renaissance man, Dandi – as he was known to his friends – was consumed with the idea of remaking the LEGO brick in digital form and then using those digital creations to create a Pixar-like movie, instructions, commercials, even video games.

Dandi and one-time photography student Claude Aebersold became friends over their love of computers and 3D graphics.

"We went for long walks up in the mountains [in Beatenberg, Switzerland], harvesting wild blueberries and stuff like that for hours, just philosophizing and talking about this data and technology and where it all could lead," Aebersold said, "and one day, we were talking about how everything in 3D looks like plastic. That was one of the key moments. A little later, Dandi was playing with his son, Frodo, and had an epiphany about it."

His idea was to take the natural plastic look of the 3D graphics of the time and lean into it, creating a CGI movie built around digital LEGO bricks and the minifigure.

While the idea was pitched as a potential birthday present for Dandi's son, the real intention was to use it to win over the LEGO Group. So the friends – Dandi, Aebersold, and



The LEGO Movie (1994)

Alex Furer – could use top-of-the-line computers to create a digital library of LEGO bricks, which in turn could be used to make everything from instructions for theme sets to movies and video games.

After spending nearly a year working on the project, they were done, but the LEGO Group responded to the pitch with a firm no.

Despite the rejection, Dandi took it upon himself to pitch the idea in person directly to Kjeld Kirk Kristiansen, the grandson of the company's founder and CEO and president of the LEGO Group at the time. Dandi booked a room at the hotel near the Billund, Denmark, headquarters of the LEGO Group and started showing up at the company.

"So, this long-haired, long-bearded knickerbocker-wearing guy with round glasses – a John Lennon-type of guy – went to the main building, to the receptionist four times a day," said Furer. "I think it was at 9 o'clock, 11 o'clock, 1 o'clock, 3 o'clock for three days. And on the third day, apparently, they told him that if he promises not to come back, they will get someone to look at what he's got to show."

The presentation was so well-received that the company gave Dandi and his group a budget to put together an in-depth study and proposal about how the concept for a LEGO brick database and digitization efforts could be brought to life at the company.

Julian Gomez, another friend of Dandi's and former NASA scientist, came on board to help with the computer database's scientific intricacies. About a year later, on Thanksgiving Day 1995, the group presented their findings, and two weeks later the LEGO Group greenlit the project, which had budget of about \$11.5 million.

The project quickly expanded from a group of six working out of a top floor at the company's headquarters in secret to a massive staff of 100 running a four-division group in a reclaimed former fishnet factory. Strategic Product Unit Darwin eventually grew to have one of the biggest computer installations in Northern Europe with an impressive array of top-of-the-line Silicon Graphics machines.

The group's four divisions each focused on different elements of the group's vision. One team focused on video games, another worked on creating interactive building instructions, a third – known as the wizards group – was an R&D group. The fourth division focused on building a massive database of LEGO bricks, known as L3D or LEGO 3D. The database was meant to be the foundation upon which all of the rest of the ideas would be built.

Many different things came out of these divisions, including helping with the development of LEGO Island, the release of a LEGO Technic submarine that came with interactive instructions on a CD-ROM, and a number of amazing virtual reality and connected concepts.

But SPU Darwin also ran into some challenges, including a sense of disconnect from the LEGO Group itself, which began to cause a fracture in the group. More importantly, the

digital database – the big bet of SPU Darwin – was not delivering at a reasonable speed. Creating a single digital brick to the needed specifications was a surprisingly timely process, with the group only able to make two to three every day.

In 1998, the LEGO Group experienced its first-ever loss, and the ramifications of that were felt across the company. Sales flattened, and production costs rose. Just as troubling, the company's investments in various new products and directions were stretching its resources thin.

The high cost and lack of immediate delivery of commercial products by SPU Darwin led to a decision in the summer of 1998 to cut the group's staffing in half. The following year, Darwin was shut down completely.

That early group of friends who worked to create the vision behind SPU Darwin each have their thoughts behind why the company closed the group, including high costs, lack of middle management support, and being a bit too far ahead of its time.

While initially, the impact of investing so much in a group that seemed to deliver so little meant that discussion of the group and investment was sort of verboten at the company, in retrospect what SPU Darwin achieved was meaningful.

It was SPU Darwin, for instance, that helped to fuel owner (and CEO at the time) Kjeld Kirk Kristiansen's passion for technology and interest in pushing the LEGO Group into things like digital experiences, video games, and fluid play – which describes products that allow children to seamlessly shift between digital and physical play.

The group was also among the first to discuss the philosophical questions of what it means to be a LEGO brick or minifigure in the digital domain.

Even the database, which didn't achieve what was expected, was an important LEGO Group project. If nothing else, it taught the company how not to create a database of bricks. That was important in 2001, when the company started exploring the idea again and ended up creating LEGO Creator, and eventually LEGO Digital Designer, which today is used in its many forms to help with set design, video games, and movies.

That formative group of visionaries may have been disillusioned when Darwin so suddenly shut down. But when looking back today at the work they did and the opportunities they were given, they remember Strategic Product Unit Darwin as an example of the LEGO DNA brought to life.

The same is true for Kristiansen.

"It was a fantastic experience," Kristiansen said. "I thought the idea was wonderful. I must also say it was quite costly and, more importantly, early days, it was really too early. But I think we did learn a lot still from that experience. So maybe it was worthwhile."

Explore more...

In order of appearance

[LEGO Friends](#) — LEGO Friends and Gendered Play

[Strategic Product Unit Darwin](#) — About LEGO Darwin

[Dent-De-Lion Du Midi](#) — Artist website

[Toy Story](#) — The making of Toy Story

[PIXAR](#) — Official website

[The LEGO Movie \(1994\)](#) — Vimeo

[LEGO Headquarters](#) — LEGO.com

[NASA](#) — Official website

[Jet Propulsion Lab](#) — Official website

[Xerox PARC](#) — Official website

[MacroMedia](#) — Wikipedia

[SIGGRAPH](#) — Official website

[LEGO Island](#) — Birth of a LEGO Video Game

[LEGO Technic submarine set number 8299 introduction](#) — YouTube

[Kjeld Kirk Kristiansen](#) — Wikipedia

[LEGO Star Wars](#) — How Harry Potter and an amazing demo led to LEGO Star Wars: The Video Game

[The LEGO Movie \(2014\)](#) — Wikipedia

[LEGO Ninjago](#) — Official website

[LEGO Legends of Chima](#) — Wikipedia

[LEGO Monkie Kid](#) — Official website

Transcript

Bits N' Bricks Season 1 Episode 16: Darwin

March 24, 2021 · 1:10:44



Prologue – 00:00

Announcer

Please note that this episode of Bits N' Bricks contains instances of misuse of the LEGO® trademark, which must always be used as an adjective and never a noun. As a reminder, it is never appropriate to refer to the company that designs and produces LEGO brand products as LEGO, rather, the correct name for the company overall is the LEGO Group... I hope that was severe enough. Was it severe enough?

Studio Engineer

Yeah, that was great then. We got it.

Announcer

Alright. On with the show.

Bits N' Bricks: Introduction – 00:40

(Child's voice announcing Bits N' Bricks)

Ethan Vincent

Welcome to Bits N' Bricks, a podcast about all things LEGO games. I'm Ethan Vincent-

Brian Crecente

-and I'm Brian Crecente. Together, we look back at the rich 25-year history of LEGO games, chat with early developers and seasoned studios, who have all tackled the creation of video games for one of the most popular and respected toy companies in the world – the LEGO Group.

Ethan Vincent

Yes.

Brian Crecente

So, Ethan, I was doing something today. I was going through our old recordings. We've been working on this for quite a while now, going back to 2019.

(Music)

Brian Crecente

And I was going through some old recordings, and I came across one that I think you're going to find very interesting.

Brian Crecente

I'm doing a bunch of research right now on LEGO video games. Their anniversary next year it's 25 years. And one of those is Friends, which you worked on.

Adriana Eyzaguirre

Yeah.

Brian Crecente

What was what is it that you did on Friends?

Adriana Eyzaguirre

Can I ask a question before we begin? Do you know about LEGO Darwin? SPU Darwin?

Brian Crecente

LEGO Darwin?

Adriana Eyzaguirre

SPU Darwin: Special Projects Unit Darwin.

Brian Crecente

Umm...

Adriana Eyzaguirre

No you don't!

Brian Crecente

I don't think I do. You know, for some reason that rings a bell, but I don't know why.

Adriana Eyzaguirre

Well that was the precursor of all the digital stuff that the LEGO Group is doing.

Brian Crecente

Ohh...

Adriana Eyzaguirre

I thought you might find it interesting. That was a unit that was open in Billund in Denmark. And that unit was the precursor of all the games and all the digital work that the LEGO Group did afterwards.

Brian Crecente

Oh, that's interesting.

Adriana Eyzaguirre

I thought you might find that interesting, because I don't think many people know about that.

Ethan Vincent

That's amazing, Brian.

Brian Crecente

Yeah.

Ethan Vincent

Like rarely would you have a moment like that where you hear something for the first time, like recorded. Tell me a little bit about this. Who's speaking here?

Brian Crecente

Yeah, so that's Adriana Eyzaguirre. I'm probably really mispronouncing her name. I interviewed her back in September 2019.

Ethan Vincent

At like a club or something? It's like there's this thumping background noise.

Brian Crecente

She I think she's at a cafe in Greece.

Ethan Vincent

Okay.

Brian Crecente

She's got like a really interesting backstory that maybe one day we can dig a little more into, but obviously, she worked at the LEGO Group on digital efforts, including Friends and some other things. And then went on to do a bunch of other work, including working at Sony Computer Entertainment, and working on games for a while. And then at some point, in 2015, just decided – you know what? I'm done with this. I don't want to do technology

so much. I'm sort of burnout. And I'm going to go start my own travel company, so she is now a guide and a coach. And she I believe she lives in Greece, but she does these expeditions in Greenland and like goes out kayaking, and yeah, sounds like she has an amazing life.

Ethan Vincent

That's cool. And of course, she was involved with SPU Darwin, which was kind of this really cool coincidence, because you're actually talking to her about, you know, the video game, the PC video game, I believe LEGO Friends.

Brian Crecente

Right, right.

Ethan Vincent

She's like, let me tell you something else. And that's just so cool that you kind of got into that. But before we maybe dive into the rich history, and this story, this amazing story, right, of the Strategic Product Unit, Darwin, and all the colorful cast of founders and incredible people we're gonna hear about, I think we need to talk a little bit about where the LEGO Group was back in the early- or mid-'90s when it came to technology, right? The LEGO Group's interest, I think, in technology has been around since at least the 80s. And its connection with MIT. And it was a love of technology and LEGO bricks that first drew Bjarne Tveskov into the LEGO Group. And for anyone who hasn't met Bjarne, I had the pleasure of meeting him in the summer, and he's just this amazing guy who has an incredible 35-year history with the LEGO Group. As a 17-year-old, he answered the call of an ad, he was living on kind of an island at the time. And the ad said, do you want to be a designer? And it was listed as LEGO Futura. And he got this kind of black box and assembled a model, a spaceship model, he was really into space at the time. And he submitted it. And as a 17-year-old, lo and behold, he was hired into the LEGO Group and was actually, you know, worked alongside the creator and inventor actually of the minifig, and just has this incredible history. And he gave us some really good insight into the '90s, and just kind of the spirit of the '90s and what was going on, and kind of a little bit of the sentiment at the LEGO Company while he was working there, as it related to technology

Bjarne Tveskov

In the mid '90s there was a sense that okay, maybe the LEGO core idea is, is it done? Has it peaked a little bit? Will kids still want to put all these little pieces together? Or do we get into a new world where some of everything is about instant gratification, and you just download something and you play it rather than putting little bits and pieces together, you know, is it old fashioned? Luckily, that was completely wrong. But at that point, no one knew. So maybe it was time to really change sort of some of the core ideas of the LEGO Group to digital. There was a sense in the air. And maybe fear was a factor a little bit also.

(Music)

Brian Crecente

So yeah, I mean, that's great. I love hearing him explain sort of what was going on at the LEGO Group, in terms of digital and technology in sort of the moments before this journey we're about to go on talking about SPU Darwin.

Ethan Vincent

What I love about Bjarne talking about it is, he was already engaged in a lot of the computer stuff coming in as this like this young 17-year-old kid, he was doing basic programming. It was a time where there was kind of this, I would say, divide between like the literate with computers and maybe those that had no idea, you know?

Brian Crecente

Yeah.

Ethan Vincent

But boy, did the LEGO Group really embrace this wave that was about to hit them. So, Brian, let's dive in. Tell me a little bit about the origins here of SPU Darwin.

Chapter 1: Inception – 07:20

Brian Crecente

Sure, yeah. So, what became one of the LEGO Group's biggest early explorations into digitization started near Bern, Switzerland in the early '90s. So there was this eclectic mix of dreamers that included a NASA scientist, a rock-and-roll roadie, a photography student, and they all were sort of brought together by the singular vision of a nature-loving, wandering scholar who called himself Dent-de-Lion du Midi. He was sort of a renaissance man, he went by the name Dandi, to his friends. And he was sort of consumed with the idea of remaking the LEGO brick in digital form. And then using those digital creations to create a Pixar-like movie, and maybe use them, these sort of digital creations, to also do instruction manuals for the LEGO Group in those theme sets, commercials, and of course, even video games.

Ethan Vincent

Yeah, and it seems like even before the pursuit of that big idea, there was a really chance meeting, two actually, between Dandi and Claude Aebersold. He was at the time an 18-year-old, kid kind of working at a local computer shop, really literate with computers, and the two formed a friendship over their interest in technology and love of 3D graphics. And here's Claude Aebersold talking to us about that.

Claude Aebersold

I guess we were in fall '91 was when it started for me. I think Apple just released QuickTime, or at least QuickTime beta. But yeah, so one of the customers there was a guy called Dent-de-Lion du Midi, which had his studio up on Beatenberg. And we heard fabled stories about him doing wild multimedia things in 3D, and me moving in that direction I was obviously very curious and interested to meeting him. So I went along for one delivery of some hardware or something or... and met him up there. And that was it. Obviously, it wasn't like a Dandi/Claude meeting, then, you know, I was just some tech nerd delivering stuff, you know? A year later, I guess we got to fast-forward because I switched computer stores. A new one opened up, another place called Computer Studio and Dandi walked in one day, wanted to check out the store and needed some product, I don't remember what, you know. He remembered me, I remembered him, and we started talking again. I eventually showed him some stuff I was working on myself, the 3D stuff, and this got the ball rolling really well, then eventually we just developed a friendship. It was very inspirational. He was one of the only persons here in Bern, who supported me in my decisions of going down the 3D rabbit hole. Back in the early '90s no one was talking about that. Keep in mind, this was just the beginning of desktop publishing, you know, so 3D was another leap away from that, you know? Yeah, he was the only person I could actually just talk about it, you know, and share ideas and so on. And so I guess I was starting to push him to start more stuff, you know, do things you know, so I can be involved and help out and be part of it.

Ethan Vincent

So before they knew it, Brian, the two were working together on little 3D modeling and animation projects. And then one day in 1993, they had an epiphany of sorts.

Claude Aebersold

We were talking for a while about different things that we could do, you know, what kind of projects or which direction could we go which could lead to some kind of success, or at least some recognition and more work, you know? One day I was up on Beatenberg, I was there once every few weeks I guess, just chatting with him. We went for long walks up in the mountains there. And one day we were talking about how everything in 3D looks like plastic. That was one of the key moments when we defined that. So what can you do when everything looks like plastic, you know, and I guess a little later, Dandi was reminiscing about it and came up with LEGO bricks as a toy. I guess he was playing with his son Frodo and had an epiphany about it, you know, so he started talking about, hey, we could we could do a LEGO movie, you know? Frodo's birthday is in more than a year, so we could create a birthday gift for his son, create this little LEGO animation thing, or at least some pictures, maybe a nice birthday card with a LEGO picture that we made ourselves. That was sort of the very humble beginnings.

Brian Crecente

So Aebersold said that though they both knew that, despite the goal of creating a birthday video for Dandi's son, the real goal here, the one that was sort of unspoken between them, was something much bigger. The two joined by a friend of Aebersold's named Olivier Honauer set to work. First, they purchased a LEGO spaceship, a little box set, and started measuring every piece included in that kit, both assembled and as individual pieces. Then they started recreating the pieces using their computers and 3D graphics. An initial test of the spaceship moving around in this sort of 3D space they created looked crummy, according to Aebersold, but I'm sure it was amazing for its time. But still, it's good enough to excite the trio. So as the work proceeded, and the time needed to create the new project, which was meant to be this sort of one-minute-long short, got longer and longer, and they realized it was this essentially a really major investment in their time, Honauer ended up dropping out and was replaced by another friend of Aebersold's who joined the team, and this was a rock-and-roll roadie with a graphic designer's edge. His name was Alex Furer, and we hear him here talking a little bit about that decision to join them.

Alex Furer

I did an apprenticeship as a photographer while in regular school, a little un-irregular school, I went to an international boarding school from seventh, eighth, ninth grade. After the apprenticeship as a photographer, I worked as a photographer at the record label, slowly transitioning to computer things by doing their desktop publishing stuff. And we actually bought things at an Apple store that was called Computer Studio, where I met Claude, and he was doing 3D things, crazy stuff, but slowly, he opened up what he was doing with this crazy, long hair, long beard, knickerbocker-wearing vegetarian guy from up the mountains speaking a weird language from a different continent. And yeah, we all got along when we started working on the LEGO movie.

Ethan Vincent

So when you hear Alex here saying the LEGO movie, obviously, you know, you're immediately brought to The LEGO Movie, but we got to remember here, Brian, we're in 1993 as these guys are coming together and working on it on very rudimentary computers, right? And the teamwork mostly apart on the project with Aebersold and Furer focused on the creative, and Dandi on the kind of project management and the music. But despite the headway, the team soon discovered that this one minute video, or this ambition of a video, was going to take a lot longer than they'd realized.

Alex Furer

I spent a lot of time at his place because he had the computers and we were just doing renderings. Just modeling something, lighting it, texturing it, rendering it, getting up in the morning, looking at it and saying it's nothing. Deleted it. But learning software. We didn't have manuals, we didn't have internet, we didn't have YouTube, we didn't have digital tutorials or anything that would teach you how to do it, so we have to figure it out, so we

just were sitting down. It was actually pretty clear it's going to be 11 months, because if we failed presenting it and making the LEGO Group interested in it, we agreed that we're going to make it for Dandi's son's birthday, which was in November. And so we had a deadline before we started. And the initial thought was to go through all the themes the LEGO Group has. So it was to be the story of Johnny LEGO, which is in space, and then with pirates, and then with castle, and then in the desert. And then there was some arctic series. And we only did space. And that already was a four minute movie with rendering times, unimaginable effects that didn't exist. We took the whole sequence through Photoshop, image by image, and not used compositing software. We at some point, we thought the project was done because the scene we worked on yesterday didn't open anymore. And we let it run for five minutes, reopened it, let it run for 10 minutes. For me it was it took one and a half hours for the file to open. And then it opened at zero seconds, and you probably animated on four seconds last night. And then moving to four seconds was another 45 minutes of waiting. It took us about two days to figure it out that actually is not broken.

(Short Tune)

Ethan Vincent

I love how Alex talks about that. And just understanding the time it took care of, Brian, right? One frame, I think of a ray-traced image, for instance, took two days to finish because of the computing power of the system they were using, but also all these other layers and things they had on top. So they realized that rendering a single minute was going to be a huge challenge, so they switched their approach and software actually.

Claude Aebersold

The main problem was the z-buffer wasn't accurate.

Ethan Vincent

This is Claude speaking.

Claude Aebersold

The program often didn't really know what was behind or in front of each other. So there's this one shot where the camera flows through this space police commando. And it was just all garbage. It was a lot of flickering, a lot of noise like you get in a bad TV transmission. The whole ceiling was flickering back and forth. But Dandi was able to reuse that footage as part of an in-movie, in-model computer screen where he was transmitting some news or some intel on computer screen, and there was this (makes a static noise), and fuzziness and noise, and all these kinds of things that were actual render bugs, actual renderings that we just reused. And so yeah, that was Dandi's job, he was doing that, you know? (Chuckles)

Ethan Vincent

So Brian, as I mentioned, in the summer, this was kind of at a lull in the pandemic. There was an opportunity for me to head to Switzerland and actually spend some time with Claude and Alex, and I was there with Benjamin Paya, a really good friend of mine, and we were able to film quite a few things and capture some interviews. And in this beautiful city called Lanzenhäusern, we walked up the road and both Alex and Claude showed me the actual house where they did all the rendering, and we stood outside, and they both commiserated about that time in their lives where all they were doing was rendering, rendering, rendering and then occasionally taking these long, beautiful walks out in the countryside.

Alex Furer

So that was the place.

Claude Aebersold

Yeah. This is where I lived from spring '94 till fall '94. It was a two- room apartment, I guess or two and a half room.

Alex Furer

That was so amazing the noise we were sitting in, remember that day and then all machines were running, all everything was rendering, everything was running. And then we said, let's do it. Let's do it. Let's do it. BAFF! We pulled the plug. And the thing that baffled us was the silence that showed up after doing that.

Claude Aebersold

Yeah, I guess we got very used to it (cross talk). There were a lot of all-nighters. We weren't living our morning to evening and sleeping through the night. It was really just a task-based, right? We have to keep the machines busy. We were on a schedule.

Alex Furer

We did make the birthday.

Claude Aebersold

Yeah, absolutely. Yeah. About half a year, I guess we worked here from spring '94 to fall '94. I suppose.

Alex Furer

Until we're done. We were done, it must be September, October.

Claude Aebersold

Yeah.

Alex Furer

We were done.

Chapter 2: Persistence – 20:50

Brian Crecente

So they have this movie, it ends up being three minutes and forty-something seconds long. And Dandi reaches out to the LEGO Group in September 1994. And the LEGO Group, perhaps not to anybody's surprise who wasn't in that small group, tells this group of people they've never heard of before – hey, we don't work with outside people or companies – and essentially to go away. I can't even imagine that moment. It must have been crushing. The others felt like they had gone through this process, they had created something, and they were happy that at least Dandi was able to deliver on the promise of creating this cool film for his son, Frodo, in time for his birthday.

Alex Furer

We didn't talk if we bring it to the LEGO Group, we talked about once we're at the LEGO Group, we're going to do this in real.

Brian Crecente

This is Alex Furer speaking.

Alex Furer

When we watched the final version of the movie, we said, "That's going to be the quality we're going to have in real-time once we get to the LEGO Group and can buy real machines." It was clear. At least that's how I remember it. There was no doubt. And they answered that we have enough internal developers, we don't need anybody telling us from the outside what we should be doing. Thank you, but no thank you.

Ethan Vincent

So it's no surprise here, especially hearing Alex, that there was a little bit of like disillusionment, right? The group split up and they all went their separate ways. And this was in November of 1994. Dandi continued to work on many projects, and Claude actually flew to the United States for a job as a game developer, and Alex returned to his normal job of being a roadie and other work that he did. The cool thing here, though, is that the story doesn't end, right, Brian? Dandi decides, after a few months, that the idea was just too good to give up on, and so what does he do? He travels to, you know, the LEGO headquarters in Billund, Denmark, he books a room across the street at the LEGOLAND Hotel, and just started showing up every day at the office, asking to speak with someone.

Alex Furer

So he went up there he knocked on their door-

Brian Crecente

This is Alex Furer.

Alex Furer

-long hair, long beard Knickerbocker, round glasses, John Lennon-type of guy. He went to the main building to the reception, four times a day I think, nine o'clock, eleven o'clock, one o'clock, three o'clock for three days, at least that's history. That's the story, right? And on the third day, apparently, somewhere they told him that if he promises not to come back, they will get someone to look at what he's got to show.

Bjarne Tveskov

I heard that Dandi came into Billund-

Ethan Vincent

This is Bjarne Tveskov speaking.

Bjarne Tveskov

-to show this video. And I guess, you know, that's normally not... that's not possible, because the LEGO Group has a strong immunity system in terms of taking ideas from, from the outside, you know, also for legal reasons and so on. We were not really allowed to take external input like that for product ideas or anything like that. But since he brought a video, I guess they thought, well, let's send him over to the AV department where they do videos and then he can show his stuff. And the guy over there called Richard [Jakobsen] he thought it was really interesting. So I guess he brought it on further into the company.

Claude Aebersold

He was extremely enthusiastic.

Brian Crecente

This is Claude Aebersold speaking.

Claude Aebersold

He certainly was able to pull people in. He was certainly able to convince and make other people see his ideas. I think one picture or one poster was extremely important that's depicting another LEGO model, the Space Police Hunter as we call them, it's a little smaller, I had it in an exploded view. Every element is sort of apart from each other, so you basically see every single element, and I guess that must have been a huge aha moment for them.

Bjarne Tveskov

But here suddenly there was this visual thing, something you could see-

Ethan Vincent

This is Bjarne Tveskov speaking.

Bjarne Tveskov

-bringing the LEGO brick to life in a new way. In a very visual way. So that was exciting, and it was certainly beyond anything we had managed to do internally at that point in time. So, it's always important to have these key visuals, or something you can show that really sells the idea, that really opened a lot of minds and a lot of eyes for sure.

Alex Furer

And he did get it to Kjeld Kristiansen apparently-

Brian Crecente

This is Alex Furer.

Alex Furer

-and that must have been in November or something, maybe past November, December of '94.

Ethan Vincent

So that's pretty amazing, you know, Brian, this idea of, you know, Dandi being so persistent and just wanting to speak with the owner and CEO of the company, you know this constant knocking, and at the time, that was none other than Kjeld Kirk Kristiansen, who also happens to be the grandson of the founder of the LEGO Company, Ole Kirk Christiansen. So we were super fortunate to be able to chat with Kjeld, who was really gracious to talk about some of his memories of Dandi and the origin of Strategic Product Unit Darwin.

Kjeld Kirk Kristiansen

He had probably been there, at our reception, a few times when I heard about him. But I heard about this little skinny, long-haired, long-bearded guy who wanted definitely to talk to me and show me what he had done. And I asked in our head of communication, who invited him into his office and saw what he had done, and was so fascinated by that, so that opened the door. And he came over to me also, and I was quickly deciding that we should really benefit from his visions and from what he was doing. So we started the Darwin group... in probably '96, '95, '96.

Brian Crecente

So, it turns out that Dandi wins the LEGO Group over, and they're almost immediately on board with the idea. So he's given this budget and half a year to create a feasibility study alongside some of the folks at the LEGO Group's Product Development Department called Futura. And so Dandi gets the team back together again, he gets Claude, he gets Alex and they do this study and return in November 1995, on Thanksgiving Day, to pitch the full idea back to the LEGO Group and are given the green light to proceed two weeks later.

Chapter 3: Darwin – 27:40

(music)

Ethan Vincent

Julian Gómez always wanted to be an astronaut. He started saving for flight training when he was just six years old, joined the Air Force axillary as soon as he was able, and was shooting for a nomination to the Air Force Academy when he graduated high school. But at 15, he was in a bizarre crash when an airplane slammed into the car he was in, effectively ending his aviation career. And he said he did receive the Air Force appointment but that the injuries caused by the accident made him ineligible. So instead, he decided to pursue computers and he attended UC Berkeley and then went on to work for NASA, the Jet Propulsion Lab, Xerox PARC, Macromedia and even Apple doing formative work in the field of 3D graphics.

Brian Crecente

Yeah, he really had a lot of interesting experiences, specifically around 3D graphics. And so while he's working at Macromedia, he's attending this Macworld Expo in Rotterdam. And he, lo and behold, meets Dandi. And Julian Gómez talks to us a little bit about that first run in.

Julian Gómez

So that was late '80s. It was at a Macworld Expo. And this very hairy guy came up to me and started asking me questions about what the MacroMind software could do and the things that he wanted to do. And we just got to talking and talking and talking. And then after the expo, I went off to Switzerland to stay at his house. And we talked lots and lots more. And we actually, I was at his place in Beatenberg, probably every four months or so, just to talk more, and he'd come out to Silicon Valley because he was the in-house artist for a company that made a board with a JPEG acceleration chip. So he was in Silicon Valley frequently in order to work with them. At some point, Dandi was contacted by this guy who wanted to do a music-sampling station, and this was called the "intouch i.station". So

he did the prototype, which was all done in MacroMind Director, and then that guy hired me in order to design and produce the actual production i.station. So that was the first project Dandi and I worked on, that was '91.

Brian Crecente

So Gómez, who stayed in touch with Dandi over the years, described him as this trained, fine artist, and someone who had a deeper understanding of how technology could be applied to the creation of art. And it was in 1994, during another sort of expo, SIGGRAPH, where Dandi approaches Gómez about his LEGO movie idea. And, Ethan, you had a chance to talk to him about that in this short excerpt from that interview.

Julian Gómez

So I was working hard at Apple. I was the principal engineer for Apple's QuickDraw 3D. And then at SIGGRAPH '94, Dandi took me aside and said, "I have a video I want to show you." And it was close to final cut of the LEGO movie. And he told me he was planning to go up to Billund and talk to the head of the LEGO Group and show him that and tell him he needed to create a database of 3D graphics LEGO bricks. So the first inkling I had of the LEGO project was at SIGGRAPH '94.

Ethan Vincent

Wow, what was your impression of that LEGO movie? How would you describe it for you know, someone who's maybe never seen it? What was your impression of this thing he had created and kind of nonchalantly kind of popped into your laptop?

Julian Gómez

I was thinking, "Wow, this would be a smash hit." Now, remember, I didn't have LEGO bricks growing up, it wasn't in the US when I was a kid. So I saw this, I knew what LEGO bricks were, of course, and I saw this movie, I was like, oh, man, this is... everybody's gonna love this movie. And at that point, when he said he was going to go up to Billund and talk to the head of the LEGO Group, and that he would probably need technical help later. That's when it first hit me that maybe I should get more familiar with this LEGO thing.

Ethan Vincent

So a few months later, Dandi told Gómez about the successful meeting with the LEGO Group and his ideas around not just a movie, but an actual database.

Julian Gómez

One of the things Dandi's said he always liked about me is that he explains an idea and I get it in two minutes. And so towards the end of '94 he told me about this database concept, and that's when I realized, holy cow, this is huge. This isn't just a movie, that's actually a huge, gigantic concept.

Ethan Vincent

How did he explain the database concept? How did he explain that to you, in presenting this idea of a database?

Julian Gómez

Oh, well the first thing was that there needs to be 3D LEGO bricks. This didn't need any explanation, because of course there needs to be 3D LEGO bricks. But then he went over this concept of a database where everything that the LEGO Group did like their PR, and their building instructions, and their movies, and their VR games would be based on the data in this database, because there was no need for each activity to have its own data, it should all come from one place. There should be one central reference place for LEGO bricks. And by doing that, by having a common point of reference for every activity, it would enable every activity. And that was how he presented the concept of L3D to me at first.

(Music)

Brian Crecente

So Dandi reaches out to Julian again around March of 1995. At this point, he was working on the feasibility study of his idea for the LEGO Group. And a group of six people ended up spending a few days in the north of Jutland discussing the concepts, and creating the basic framework for an advanced visual computing laboratory for the LEGO Group. Over the following months, the group created a number of proof of concepts that included converting and creating 3D graphics and core conceits for a database. They did all this so that by that Thanksgiving Day presentation that we talked about a little earlier, the team would have more than suggestions to show.

Julian Gómez

So at the time that the feasibility report was presented, it was not just an outline of how Darwin would work-

Ethan Vincent

This is Julian Gómez speaking.

Julian Gómez

-but it included real-life demonstrations of initial versions of the technology. So for example, when it came my turn to present L3D, I had a Macintosh down on the stage of the auditorium, and Pierre [Mifsud] was up in the control booth with the server. So I made sure that the steering group understood that, you know, here's a guy who's 100 feet away with his server, and the Macintosh on the stage is accessing the server in real-time, which is then delivering 3D graphics data. And part of that involved asking them to say, "Well, would you like me to do this?" So it wasn't even a canned demo – it was a live, interactive demo. And

by the end of the day, you know, we had shown them that not only do you have a plan here for how to do this whole division, SPU Darwin, but we've shown you that already that the technology does work.

Brian Crecente

Somebody else who was there was Bjarne, the person that we spoke about at the beginning of this podcast, the whiz kid who's like really into computers and got that job by building a LEGO spaceship. So he talked to us a little bit about what that meeting was like.

Bjarne Tveskov

It was a huge auditorium and there was only like a handful of us and handful from management. And we each had a part where we were kind of showing off our findings and talking to how would the database help what we were trying to achieve? Tying it all together, saying, well, it's a good idea to have, like we have one LEGO system we should also have one digital system, or one common place to have all the 3D elements and so on and so forth. But also trying to kind of paint a picture of a future where all this stuff could be used, and showing all the places where it could be relevant in the organization and so on. It was ...a tense meeting, but on the other hand, I think there was also a sense that there was some momentum already behind this. So the general feeling was that this could go somewhere, and we got an answer very quickly after the meeting that it was a go-ahead.

Ethan Vincent

Yeah, that's cool to hear Bjarne talk about that moment where they get the green light, you know, that came about two weeks after the group had presented. And one of the things that I always find fascinating and looking at that feasibility report, Brian, is to see kind of the calculations at the end. And I think they had a proposed budget of around \$11.5 million. And I talked to Bjarne about those numbers, and just that large amount that they were asking for.

Bjarne Tveskov

It was a lot. Yeah, it was very ambitious, and very non LEGO Group way to do it to be quite honest. I mean, if we have had our ways, we would have a slow organic growth of software department, you know hiring a person more, maybe two more, and then ramping up slowly to what we were trying to do. So this was more like a big bang approach from zero to 100 in no time, you know, which was extremely interesting, also very scary, in a way. But also, like a very bold approach, I would say. And something that wasn't done very often.

(Music)

Chapter 4: SPU Darwin Begins – 36:47

Brian Crecente

Strategic Product Unit Darwin, or SPU Darwin, officially started in January 1996 with a team of just six, growing to 100 in the first years. Initially, that small team were set up in the third floor of the LEGO headquarters. And Julian talked to us a little bit about what that was like and how they moved over to a different building.

Julian Gómez

Well actually, A.V.C.L. [Advanced Visual Computing Lab] was at the top of, what was then called, the LEGO Center. And we were in an unmarked room because the LEGO Group didn't want to advertise that this project was going on. When Darwin got approved, this was considered public information, it was clear that that one room at the top of this LEGO Center, it was not going to work. So that's when they moved us to the LMX, the old fish factory. That one let us grow to, I think, around 60 people. And even before we got to that it was clear we were going to need another building. I'd actually selected a corner of a lobby for my office so I could have an L-shaped desk and was looking out at the meadow outside of the building, which was kind of cute because in the spring, the sheep would stand there looking at me with my computers and doing stuff, and the sheep would stand there chewing the grass and looking at me looking out of them. And then I could watch the lambs gambling about the meadow. That was a real demonstration of the verb gambling, but I'd be over at LMX at least daily, maybe twice daily, and could see that, yeah, it was very well populated by that point. It had two gigantic rooms, and both of them were full of people working at desks, plus the sound studio and the server room took up a good deal of space.

Ethan Vincent

So the LEGO Company put a lot of work into the big, empty warehouse, this kind of former fishnet plant. The actual address I think was like Kløvermarken 120. It's an actual location. You can drive by it. It's not a fishnet factory or a, you know, Darwin building anymore, but it is just that. It's this kind of super long, red-bricked building that, you know, they had to turn into a studio of sorts. I mean, it kind of had all the markings of a startup here, Brian. They put in, you know, two and a half meter walls. They put in tables, they created some soundproofing. They created a video-editing room and, you know, they just started buying computers. And eventually SPU Darwin grew to have one of the biggest computer installations in Northern Europe.

Claude Aebersold

It was gradual and came in phases, obviously. We didn't just like start and buy all this gear, you know, we bought what was necessary.

Ethan Vincent

This is Claude Aebersold speaking.

Claude Aebersold

First, we had a single-pipe Onyx that we were doing our virtual reality stuff, a deskside version. We had a challenger server. So yeah, this came in gradually. It was only towards the end when we were at 160 people when the scope was, was obvious. During that time, there was a lot of ramping up in working together with Silicon Graphics and working together with Alias Wavefront back then. So that was a big manifestation of realizing how serious this whole thing was when software companies were toppling over each other to give us the best deals and really wanted to be involved in what we were doing.

Brian Crecente

So the group itself was broken into four clear divisions, each one focusing on different elements of their vision, of the sort of Darwin vision. They had one team that was focused on video games. They had another working on creating interactive, building instructions. A third was known, this is my very favorite group, as the Wizard's group, which was sort of an R&D group. And finally, there was a group focused on building a massive database of LEGO bricks known as L3D or LEGO 3D. That was this idea that they wanted to literally recreate every single LEGO brick ever made, and turn it into this sort of digital version of itself, making an exact copy. And this sort of database would be sort of the foundation upon which, games and building instruction and all the other things that they've been talking about would be built.

Ethan Vincent

Yeah, a lot of different things came out of these groups. The games' group, for instance, worked with MindScape on the creation of LEGO Island, the second LEGO video game ever made, and the first created with strong, direct input from the LEGO Group. The software Research and Development Group worked on a project called, Rubber Duck, which was the code name for a LEGO Technic Submarine that actually launched a set number 8299 in January of 1997, with a CD-ROM that contained 3D video and building instructions. And then of course, there were the Wizards, who did some amazing work on things like virtual reality and connected experiences. And it's probably here, Brian, that we need to pause real quick and return to our long-bearded, Knickerbocker-wearing, vegetarian friend, Dent-de-Lion du Midi, or Dandi, who led the Wizard's group, and he actually carried the title, senior visionary, right?

Brian Crecente

Yeah, you know, I and I know you spent a lot of time trying to get a hold of him because we both really just wanted to hear his story. He sounds like such an interesting guy. And I think we both sent a lot of emails to him trying to reach out. I know my attempts go back

to, I think late 2019 and up until about a week ago, and just have never had any luck with him via email.

Ethan Vincent

Yeah, it's too bad. You know, when I was in Bern in the summer of 2020, I talked to both Alex and Claude and kind of like, "Hey, what's going on?" And they made it kind of clear that he wasn't interested in revisiting, you know, his past and didn't want to really talk about it, and I actually had the idea to like roam the streets, and did, like on a weekday morning with my cameraman and friend Benjamin Paya. And we just kind of went down the street that we thought he'd be on where his shop was, which also has no address – it's really hard to find him, you know – but all with no results. But I did find this, Brian, and I wanted to share it with you. It's this little gem that we have from a Danish television station. And you can hear Dandi's voice as he's explaining the vision of the Wizard's group.

Dent-de-Lion du Midi

The LEGO Group coming from the traditional company that it was, to doing these new, wild things which are brand new to this company. It was very important to do that in the center, in the mecca of the LEGO brand. We're trying out new ideas and play-concepts. We're working on very high technology, which we realize that will come down to the kids, so it'll be on their desktops in their rooms. I think the nicest thing anyone can say to us in the Wizard group is: You understand the LEGO idea; you are the LEGO idea. You have the future of the LEGO brand is partially in your hands, which is great for nerds (chuckles).

(music)

Ethan Vincent

There it is, Brian, you know, at least we have that little snippet with the little shoutout to the nerds there at the end. But, you know, let's get back to our various groups at SPU Darwin. You know, probably the biggest bet the LEGO Group made, was with the Advanced Technology Group and the L3D database, the idea of making something as interchangeable and long-lasting as the physical bricks themselves. Julian Gómez led those efforts, and although it was making headway literally brick by brick, the Darwin Group had to deliver on their projects and products as Claude talks about here.

Claude Aebersold

With Rubber Duck and LEGO Island being a success, people wanted more. Obviously, it was..., we were just picking up steam, you know, we were just getting going. It was, ...we had those first products out the door. They went great. We had a great time creating them and we had a great time seeing how they're perceived. And we won some awards and everybody was happy, you know, it was happy times. It was definitely our honeymoon phase. Now we're confronted with, yeah, "Show me the money, show me what you can do with it, you know, we want more." How is this gonna be a wheel that keeps spinning, that

we can implement into the corporate world of, or into the realm of the LEGO Group, and how could this be its own department? And yeah, how did it all fit in, from a Strategic Project Unit to a department from the LEGO Group, you know? So several different departments started to emerge, focusing on their specific ends and needs.

Bjarne Tveskov

I mean, I was a kind of a gap between this very high-end stuff and this sort of very down-to-earth stuff we were trying to do, you know?

Ethan Vincent

This is Bjarne Tveskov speaking.

Bjarne Tveskov

We had so much hardware and just kept growing. I remember sometimes going into that big machine room with all the servers humming along. And then just seeing all the performance meters at zero, they weren't doing anything, just the air con running, you know, and of course, it's hard to keep a load on all these machines all the time, but you can just kind of feel all the money flying out over the roof basically, and over the heads of people in a – you know, why do we need all this stuff? So yeah, sometimes it felt a bit disjointed, but on the other hand, sometimes you just have to go all-in on something and then see where it lands, because you don't really know.

Brian Crecente

Housed away from the LEGO headquarters, the group did start to drift away a bit from the central LEGO Company and the people working there. They were, in many ways, viewed as this kind of rock-and-roll group that sort of siloed away from the rest of the LEGO Group. And unfortunately, that began to build up a level of animosity between the main company and these young startups trying to recreate the LEGO experience and LEGO play in digital form. Claude talked to us here a little bit about that mounting tension.

Claude Aebersold

We came in with this, let's go, let's do it people, go, go, go-kind of attitude, you know, overflowing with enthusiasm, and just wanting to do stuff. And one thing we heard over and over was the response of, "We will see, let's wait a little, let's see, let's talk about it another day." So we never really got a strong support from the different LEGO departments, I feel. Again, this is my perspective, and I don't know what happened behind the curtains. I wasn't in management or part of business decision. So I didn't really know what was going on, but the opposition was quite clear.

Alex Furer

Many times we heard the thing that, ...the saying that they were..., "You just want to eliminate plastic and make, ...create and make," ...because we were always asking, "When are we going to make the movie?"

Brian Crecente

This is Alex Furer speaking.

Alex Furer

They probably perceived this as we want to skip plastic and make the movie and then I always said no, no, no, no, no, no, no, because if you make a movie, you could also test things out, you could make a movie or something about a theme you haven't had in plastic yet. And then make the plastic. It was always very clear that the plastic needs to be theirs too, you know, it's complimentary. It's not against each other. And we never ever wanted to eliminate the plastic, but we kept hearing that from people saying – he just want to get rid of the plastic.

Claude Aebersold

What we try to achieve-

Brian Crecente

This is Claude speaking.

Claude Aebersold

-is to create a presence of LEGO bricks in the digital realm and explore the possibilities and chances, technology provided, so if anything, it was just to expand, it was to provide a digital counterpart to an already-genius product, you know, and quite frankly, not screw it up.

(Tune)

Chapter 5: SPU Darwin Ends – 48:54

Ethan Vincent

In 1998, the LEGO Group experienced its first ever loss, and the ramifications of that were felt throughout the company. Sales had flattened and production costs were rising. Just as troubling, the company's investment in an array of new products and directions was stretching the company's resources very thin. For SPU Darwin, the impact couldn't have been more immediate. The group had massive ambitions but failed to execute on

delivering something in the near-term. The group's foundational efforts, on the database for instance, was obviously very ahead of its time and a great idea. But in execution, it was perhaps too far ahead of its time. Creating a single brick to the specifications and quality needed was taking way too much time, and with the group only creating two or three digital representations of the brick in a given day.

Brian Crecente

Yeah, and at the same time, the LEGO Group had, in 1997, founded LEGO Media International in London, and it was tasked with, among other things, helping to create video games, which it turned out was a key part of SPU Darwin's efforts. And so Darwin with its massive array of computers, was not an inexpensive investment to maintain. That high cost and lack of immediate delivery of commercial products, coupled with the onset of financial issues at the LEGO Group, led to a decision in the summer of 1998 to cut half of Darwin's staffing.

Claude Aebersold

I wasn't there for the final run of Darwin.

Ethan Vincent

Here Claude again.

Claude Aebersold

I left Darwin in late spring '98, and Darwin was shut down in '99. So they had another year to go. The mood changed in '97 or in the duration of '97 around. I guess there was a lot of pressure from upper management. They were starting to cut the funds for projects. And there was a certain pressure that one felt there that perhaps the LEGO Group wasn't doing so good, and I think a lot of people also blamed Darwin for it, that we were just really this bottomless pit where money just disappears. And in preparation for this interview, I found some old documents where mission statement for the Wizard Group is "Dynasty Ain't Cheap." As a mission statement, you know, it's so... – to fight against this false expectation that you can just have everything and save money while doing it, you know, that certain things will cost a lot of money, especially if it's fundamental research that needs to get done to make this transition right for the LEGO Group, to provide the best possible chance for the LEGO Group to emerge as a major player in the digital space.

Brian Crecente

Darwin was completely shut down the following year.

Ethan Vincent

So Alex Furer talked to me a little bit, Brian, about seeing the writing on the wall. And this to him kind of happened shortly after attending SIGGRAPH. And he just had an experience

there where ...kind of the light went on after that experience, so let's hear a little bit from that conversation.

Alex Furer

I quit. I saw the writing on the wall after Rubber Duck. Well, especially after SIGGRAPH, and we had a virtual New Orleans up and running where you could walk through New Orleans and see the convention center and the Super Bowl thing, the stadium, and so on, and some landmarks. And it wasn't all out of LEGO bricks, but it was VR and it was minifigures ...and Kjeld was there. And I sat next to Kjeld. Kjeld had a stick because he hurt his knee. And he, ...the light went on after the two hours in a cinema and he took his stick and looked over to me and said, "Next year, the LEGO Group has to be on this screen." And Claude and I were like, yeah, of course, sure. When are we going to make the movie? This is step one and making the movie. And so we went back and we took a joke of Julian Gómez about an airplane landing, where the co-pilot goes, "Oh, this is going to be really, really tight" and pilot "Oh, we're gonna have to brake really, really hard." And then you know, all that discussion, and they finally land. And they (grunts) just at the border of the runway. And then they said, "That was a really short one, but look how wide it is!" That was the thing we wanted to convert to an animation. So we had these things called P.E.T. project days, that is Personal Education Training Days. We could take a day, a month or a week, I don't remember, I think it was a month and for not working on the current projects, but working on something we wanted to work on. And we said we take these P.E.T. days, we make them on those P.E.T. days, or we make them during work hours, or we make them at the weekend. We work on it in night, whenever, we just want to get this done. And my direct boss saying, "You don't have a client." And I said, "I sat next to Kjeld, the guy that pays your salary." I was always pretty direct, I never talked around the bush. "The guy that pays your salary is our client in this, and you're telling me I don't have a client? Isn't there anything we can make to get to an agreement?" He said, "No, you can't do it. You have to follow the production schedule. We are tight on people blah, blah, blah." And that's where I said, okay, this is probably over. I don't know what happened. It just, it just went downhill and I heard him talking about LEGO Media International-something. I have not even... – I don't know who that was, I don't know where they were. I didn't care too much anymore, so, yeah.

Claude Aebersold

I guess that was at the end, was the fall of Darwin in '99, you know, when they decided to just cut Darwin.

Brian Crecente

This is Claude Aebersold speaking.

Claude Aebersold

If all you know is a hammer, everything looks like a nail. So if profit is the only thing you measure it by, you can say it was a failure. You can say we spent way too much money. We weren't aware enough of developing with profit in mind. But more, the real, ...the core, the nitty gritty, what it fundamentally means to be a virtual LEGO character, or virtual LEGO toy for that matter. That was where we were at. But that got lost in translation unfortunately. That is the saddest part, and I guess I got more and more disillusioned with it. I realized the LEGO movie will never happen.

Ethan Vincent

So I think from Claude and Alex, it was very clear in my conversations with them too that, you know, they felt impacted by, you know, the closing of Darwin. And Julian Gómez talks about that same thing, and just what that meant on a personal level.

Julian Gómez

I never really had time to process it, because of what I said about having been forced to leave Denmark. That actually happened pretty quickly. And I didn't get a chance to talk with all the people involved. Because one of the things is, at least for Advanced Technology Group, I hired everybody there. So it was a personal relationship with every person in that team. And because I had to leave so quickly, I didn't get a chance to really wrap that up. That includes with Dandi and Claude and Alex. Definitely, we were all dismayed because we'd been working on this dream for years at that point.

Ethan Vincent

Yeah, so obviously, this is, you know, a hard thing for a lot of people. When I talked to Bjarne, I got a very different story. And you got to hear this, Brian, this is just kind of sad little moment, but it's a great little story. Check this out.

Bjarne Tveskov

So, so basically, in early '98, I took a leave. I said I was going to leave for half a year to do other stuff. I was also moving in with my girlfriend, now wife. And really, also looking forward to relaxing a little bit. But also thinking we're going to see if I'm going to come back or not, and also seeing if Darwin is still around when I eventually come back, later in '98 – which it wasn't. So there you go. But it is a little bit guesswork for me, and to be quite honest, I have never really delved deep into the reasons. My sense is that there was a lot of political stuff. And there was also some top management people who were maybe not fighting it out, but also seeing, you know, who would own this stuff. So maybe it's not the right thing to do in the long term. You can do it for a while, but it's really hard to keep that momentum. And with the culture being so different, is it the right thing to do? That was a big question.

Chapter 6: SPU Darwin Impact – 58:19

Brian Crecente

While initially, the impact of investing so much in a group that seemed to deliver so little, meant that discussion of the group and the investment was sort of verboten. In retrospect, what SPU Darwin achieved was, it was actually meaningful.

Ethan Vincent

Yeah. And it was SPU Darwin, for instance, that helped to fuel owner and CEO at the time, Kjeld Kirk Kristiansen's passion for technology and interest in pushing the LEGO Group into things like digital experiences, fluid play, and video games. Darwin was among the first to discuss the philosophical questions of what it means to be a LEGO brick, or minifigure in the digital domain. How should a minifigure behave and look when freed from its physical form? Can they stretch? Can they bend these kind of nonexistent knees?

Brian Crecente

Yeah, and you know, that's seen in every video game from LEGO Island to the many LEGO *Star Wars* titles, but it's also seen in the popular LEGO movies and shorts, from *The LEGO Movie*, to *Ninjago*, *Legends of Chima*, and *Monkie Kid*. Even the database which ended up not achieving what was expected, was actually critically important project for the LEGO Group. If nothing else, it taught the company how not to create a database of bricks. That was important when in 2001, the company started exploring the idea again, and ended up creating LEGO Creator and eventually LEGO Digital Designer, which today is used in its many forms to help with set design, video games, and yes, even movies.

Ethan Vincent

Yeah, and while that formative group of visionaries was disillusioned when Darwin so suddenly shut down, looking back today at the work they did, and the opportunities they were given, leaves them remembering Strategic Product Unit Darwin, as an example of the LEGO DNA brought to life. Julian Gómez remains fiercely proud of the database work he did while at the LEGO Group and the latitude he and his team were given to do it.

Julian Gómez

The message for people in Darwin is actually the Nike message: Just Do It. You may think these problems are huge, but there's a lot of stuff technology can do, especially if you think not only out of the box, but between the boxes. The message for the LEGO Group is that they need better corporate memory because they spend all this money on developing stuff and then just kind of shove it aside. You know, imagine where digital LEGO design would be if LDD had tried to use some of the ATG [Advanced Technology Group] engineers in developing that?

Brian Crecente

Claude Aebersold, for his part, is reluctant to call SPU Darwin and its many projects a failure.

Claude Aebersold

I was gonna say, I guess we failed. But I guess with a heavy storm, a phase of heavy tranquility needs to come. And the LEGO Group had this phase – beginning of 2000, I guess – where after Darwin was shut down, I guess the worst was yet to come. This wasn't the worst. I think the years of 2003, 2004, this was horrendous for the LEGO Group. And I only observe this from afar and only very, not very intensely. I wasn't like... – when I left the LEGO Group, the LEGO Group was for me was pretty much a done deal.

Ethan Vincent

Bjarne Tveskov thinks Darwin suffered from bad timing.

Bjarne Tveskov

Darwin was too early for its time, and you don't get any awards for being early with stuff. That's one thing I realized. It kind of hurts sometimes to be to be early with a lot of stuff, but you just have to accept it, and, again, you can say that in hindsight, but you don't know when you're in it. I think it would have been better with a more organic growth where we had slowly ramped up and really based all our products in real reality-based concepts and actual shippable products. But that's just how it goes sometimes, you know. You can easily say that looking back, but you can't say that looking forwards.

(music)

Bjarne Tveskov

I think the saving grace of the LEGO Group is the LEGO idea. The LEGO idea is simply too strong to be kept down. No matter what, it really takes effort to mangle that idea. Many have tried and failed in taking the LEGO Group in wrong directions. But the core idea is simply too strong. It is a medium in itself to me. It is kind of like digital clay. It's something you can create anything out of. And the core idea is strong. There was this time where even the LEGO Group lost confidence in the core idea of the LEGO brand. And would kids really love to put little pieces together? But the kids tell us that they still want to put together elaborate models, you know? It's fine, but it takes hours to create a model. It's not a problem. Maybe it's even a good thing in these times with a lot of instant gratification, and all the social media, and all the fast digital stuff. Maybe the LEGO brand is the kind of antidote to that now. So I think it's just a very strong idea that you really can't keep down no matter what you do.

Brian Crecente

Kjeld, thanks so much for talking with us about the company your grandfather founded and you ran for some time. You've had so many amazing experiences, from ushering in the era of the minifigure to spearheading those first moments of the LEGO Group's digital efforts. I'm just wondering if you look back today at that history, how do you now view Strategic Product Unit Darwin?

Kjeld Kirk Kristiansen

I remember back, and I think it was a fantastic experience. Because for instance, we bought some of the most fantastic Silicon Graphics computers, and there were so much computer power in the Darwin group, and I think about 15 crazy people who Dandi knew already. And the basic idea, of course, was to make all our bricks digital, so that you both can easily make building instructions with digital, but you can also make games and you can sit there and build whatever you want, digitally. So I thought that idea was wonderful, but I must also say, it was quite costly. But more importantly, it was really too early. But it was fun. And I think back on trying out virtual reality myself and walking about in the house as a minifigure, and so on. So it must be seen as a project, which was too early. But I think we did learn a lot still from that experience, so maybe it was worthwhile.

(Soft tune plays)

Chapter 7: Conclusions – 01:05:39

Ethan Vincent

Hearing Kjeld talk about how SPU Darwin was worthwhile, ah man, what an amazing moment, and what a great conclusion to this as well, Brian. I think about just the effort and the vision and the dream that these early friends had coming from Switzerland, and I can't tell you what a pleasure it was to meet them. And one of the most painful things, I think, in putting the story together is just how much was left out. There are so many great things that Alex and Claude and Bjarne and Julian shared with me, and I look forward to putting that together maybe into something else and hope that that will happen soon after this period we're in. But for me, the big takeaway here is that when you dream big, and you knock on those doors, and you don't give up, you just might break through. And when you do, you can with that momentum, hopefully shake things up and I see just such beautiful passion and such a force taking place in trying to help the LEGO Group achieve this goal of digitization. This was a really tremendous task to say, we're going to take every single LEGO piece and LEGO brick, and we're going to try to make it digital in a time where not too many companies were doing that, in a time where not too many companies were dreaming up creating all kinds of catalogs and movies and video games and wanting to do everything at once. It was its biggest ambition and achievement, but it was also maybe its biggest stumbling block in trying to do everything at the same time. So I still hold such,

you know, special place in my heart for these individuals who were just full of ambition and dreams. And I think some of that spirit, and I know some of that spirit, is actually still alive today in the LEGO Group and in the LEGO Games' team as I talk to them and meet with them, and something that I've learned throughout the podcast.

Brian Crecente

Yeah, it's so wonderful to stumble upon something like this as a journalist, as a researcher, to find these sort of skunkworks, that are perhaps known about within a company, but not very well known about outside the company. So having the opportunity to look at this, I think, was really interesting, and I think it's really telling, too. I think, despite the fact that, certainly at the time, it was viewed, I think, as a failure by some and perhaps even embarrassing by some. I think that, in retrospect, looking at it through the eyes of history, that it is an important moment in the LEGO Group's evolution of its system of play, of its idea that it has created a toy that will always work with other parts of its toys, that those bricks will always interlock. And, you know, that's all caused by the drive of Dandi and his team, this formative idea that they had, that they sort of pursued and Dandi just absolutely wouldn't give up on, and managed to convince everybody that this was a good idea. And I think now, when you look at it, and when you hear what people say about it, I think the lesson for me is that sometimes success doesn't come down the path you expect. You know, it comes years later, and maybe it's in the minifig face of Luke Skywalker, or the amazing animation of The LEGO Movie, or even in the delight that is delivered through something like Hidden Side.

Bits N' Bricks: Credits – 01:09:41

Ethan Vincent

Bits N' Bricks is made possible by LEGO Games. Our producer is Ronny Scherer. Your hosts are Ethan Vincent and Brian Crecente. Episode producing and editing by Ethan Vincent. Writing by Brian Crecente. Mixing and sound design by Dan Carlisle. Music by Peter Priemer, Founder Music, and Henrik Lindstrand from the award-winning game LEGO Builder's Journey, which you can play on Apple Arcade today.

We'd like to thank our participants: Claude Aebersold, Alex Furer, Julian Gómez, Kjeld Kirk Kristiansen, and Bjarne Tveskov. Additional voices: Adriana Eyzaguirre and Dent-de-Lion du Midi. We'd also like to thank the entire LEGO Games team, and Anders Tankred Holm for additional recording support. For questions or comments write as at bitsnbricks@LEGO.com. And as always, stay tuned for more episodes of Bits N' Bricks.

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